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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,218	YAN, WEIZHONG	
	Examiner	Art Unit	
	IQBAL ZAIDI	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 September 2009.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-3,7,9 and 19-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-3, 7, 9, 19-35 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

1. This office action is in response to applicant's amendment filed on Sep 18, 2009 for Application No. 10591218.
2. Claims 1-3, and 7, and 9, and 19-35, are pending in this application. Claims 1-3, and 7, and 9, are amended by applicant's amendment.
3. Applicant's arguments in respect to the new issues of claims 1-3, and 7, and 9, and 19-35, have been considered but they are not persuasive.
4. Examiner acknowledges applicant's cancellation of claim 4-6, and 10-18 .

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, and 30, and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to provide description for the amended subject matter "the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port" which is recited in claims 1, and 30, and 35.

In support of the amended subject matter Applicant relies on par. 0057 and par. 0065 of the specification. However, par. 0028 and merely state that the CPU transmits the information of service failure to the first routing unit, and modifies the port number of the transmitting port corresponding to a fault destination port into the port number of the backup port corresponding to the destination port where there is a “service failure” in the relationship between the port number of each destination port and the port number of the transmitting port, and the relationship is saved in the second routing unit.

There is no mention transmit other data packets regardless of whether a failure is associated with the destination port.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 7, and 9, and 26-27, and 31-34** are rejected under 35 U.S.C 102(e) as being anticipated by Vogal et al (US 20050028216, Feb. 3, 2005) (Hereinafter Vogal et al).

Regarding **claim 7**, Vogal discloses a network device(*page 2, A single set top box(network device) can be used to receive all the cable services provided by the network*), comprising: a processor(*page 2, Each of the server modules 106 comprises at least one processor 115, memory 117, a plurality of storage devices 116, input/output devices and other processing circuitry for processing video information*); a first routing unit(*page 2, The switch controllers 310(first routing unit) primarily direct the routing of data packets*); and a second routing unit(*page 6, the switch matrix IC 306, via an in-band signal path 315,, for routing to the appropriate 110 port 320*), where, wherein the processor is configured to communicate with the first routing unit(*page 4, See Fig 3, shows both switch controllers 310 communicate with each other*), wherein the first routing unit is configured to save a first relationship between a data packet identifier and a destination port in a first routing table(*Vogal ,page 6, a reference table of data packet identifiers and I/O port 320(destination port) destination addresses), identify the destination port corresponding to the data packet identifier from the first routing table after receiving a data packet(*Vogal ,page 6, a reference table of data packet identifiers and I/O port 320(destination port) destination addresses), and wherein the second routing unit is configured to save a second relationship between the destination port and the transmitting port in a second table(*Vogal ,page 6, See Fig 4, shows, In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317,, to store a table of the most current destination addresses for the in-band data packets corresponding to each video*)**

session. Thus, the CAM 422 table is used for determining which 110 port the in-band data packets are to be routed, table to determine from with I/O port 320 the data packet is destined to be transmitted, sends the data packets via signal path 321(2) to the fourth I/O port 320(4) as depicted), and transmit the data packet via the transmitting port corresponding to the destination port based on the second relationship(page 6, See Fig 4, shows, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317 to store a table of the most current destination addresses, the CAM 422 table is used for determining which 110 port the in-band data packets are to be routed, table to determine from with I/O port 320 the data packet is destined to be transmitted, sends the data packets via signal path 321(2) to the fourth I/O port 320(4) as depicted).

8. (Canceled)

Regarding **claim 9**, Vogal discloses and the second routing unit is further configured to search out the transmitting port corresponding to the destination port according to the second relationship(Vogal ,page 6, See Fig 4, shows, In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317,, to store a table of the most current destination addresses for the in-band data packets corresponding to each video session. Thus, the CAM 422 table is used for determining which 110 port the in-band

data packets are to be routed, table to determine from which I/O port 320 the data packet is destined to be transmitted, sends the data packets via signal path 321(2) to the fourth I/O port 320(4) as depicted).

Regarding **claim 26**, Vogal discloses when there is a service failure in any destination port, the transmitting port corresponding to the fault destination port is modified into a backup port of the fault destination port (page 6, *In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317, to store a table of the most current destination addresses for the in-band data packets corresponding to each video session.*).

Regarding **claim 27**, Vogal discloses each destination port appears only once in the second table (page 6, *an MPEG data packet, includes a header having a data packet identifier for routing such packet. As the data packets are received by an 110 port 320, the 110 port 320 determines which identifier it has received, and then accesses the CAM 422 table to determine from which 110 port 320 the data packet is destined to be transmitted*).

Regarding **claim 29**, Vogal discloses the processor is configured to monitor each destination port in real time and modify the transmitting port corresponding to the fault destination port into a backup port of the fault destination port when a service failure is

found in the destination port(*page 6, In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317, to store a table of the most current destination addresses for the in-band data packets corresponding to each video session).*

Regarding **claim 31**, Vogal discloses the first routing table is not modified when there is a service failure in any destination port(*page 5, the primary switch controller 310(has first table), will have failed to poke the 110 ports 320 over the OOB signal path 317 during the next poking interval(can not modified table)).*

Regarding **claim 32**, Vogal discloses the destination port appears a plurality of times in the first routing table(*page 1, the video switch comprises a plurality of 110 ports coupled to the plurality of server modules and a plurality of subscriber equipment).*

Regarding **claim 33**, Vogal discloses the data packet is not transmitted on the first transmitting port when a failure occurs in the first transmitting port(*page 9, a single point of failure occurring in the communications paths between the head-end controllers and plurality of server modules has been averted).*

Regarding **claim 34**, Vogal discloses first routing unit configured to save a first relationship between a data packet identifier and a destination port in a first routing

table(Vogal ,page 6, a reference table of data packet identifiers and I/O port 320(destination port) destination addresses); and a second routing unit configured to save a second relationship between the destination port and a transmitting port in a second routing table(Vogal ,page 6,See Fig 4, shows, In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317,, to store a table of the most current destination addresses for the in-band data packets corresponding to each video session. Thus, the CAM 422 table is used for determining which 110 port the in-band data packets are to be routed, table to determine from with I/O port 320 the data packet is destined to be transmitted, sends the data packets via signal path 321(2) to the fourth I/O port 320(4) as depicted).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-3, and 19-24 are rejected under 35 U.S.C 103(a) as being unpatentable over Vogal et al (US 20050028216, Feb. 3, 2005) in view of Nakamura et al (US 20050099983, May 12, 2005)

Regarding **claim 1**, Vogal discloses a method for receiving a data packet comprising a data packet identifier(*page 6, A data packet, such as an MPEG data packet, includes a header having a data packet identifier for routing such packet*); identifying a destination port corresponding to the data packet identifier from a first routing table(*page 6, a reference table of data packet identifiers and I/O port 320(destination port) destination addresses), wherein there is a first relationship between the data packet identifier and the destination in the first routing table(,page 6,See Fig 4, shows, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses); and transmitting the data packet via a transmitting port corresponding to the destination based on a second relationship between the destination port and the transmitting port in a second routing table (*page 6,See Fig 4, shows, In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317,, to store a table of the most current destination addresses for the in-band data packets corresponding to each video session. Thus, the CAM 422 table is used for determining which 110 port the in-band data packets are to be routed, table to determine from with I/O port 320 the data packet is destined to be transmitted, sends the data packets via signal path 321(2) to the fourth I/O port 320(4) as depicted*).*

Vogal discloses all aspects of the claimed invention, except *the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port.*

Nakamura is the same field of invention teaches the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port(*page 7, if a terminal on a backup path fails during use of the backup path, and can take further steps to reduce the probability that two terminals will start backup transmission simultaneously and that their transmitted packets will collide, it is significant that terminals on different backup paths will tend to set different suspension times, because they judge the conditions of different sets of nearby terminals. In addition, the terminals on different backup paths can coordinate their transmission timings so as to reduce the probability of collision to substantially zero*).

Vogal and Nakamura are analogous art because they are from the same field of endeavor of access to a service device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Vogal to include the teaching of Nakamura because it is providing communication terminals and communication networks that improve on conventional single-path and multipath routing schemes in order to stabilize communication, avoid radio interference, and use network resources effectively.

Regarding **claim 2**, Vogal discloses transmitting the data packet via a transmitting port corresponding to the destination port based on a second relationship

between the destination port and the transmitting port in a second routing table (,page 6, See Fig 4, shows, In FIG. 4, the CAM 422 provides a reference table of data packet identifiers and 110 port 320 destination addresses. In particular, the CAM 422 is updated by the primary switch controller 310,, via the out-of band signal paths 317,, to store a table of the most current destination addresses for the in-band data packets corresponding to each video session. Thus, the CAM 422 table is used for determining which 110 port the in-band data packets are to be routed, table to determine from with I/O port 320 the data packet is destined to be transmitted, sends the data packets via signal path 321(2) to the fourth I/O port 320(4) as depicted) the saved relationship comprises: searching out the transmitting port corresponding to number of the destination port according to the saved-second relationship(page 6, the second server module 106, sends the data packets (streamed video) via signal path 321, to the fourth 110 port 320,, as illustratively Depicted).

Vogal discloses all aspects of the claimed invention, except *transmitting the data packet via the transmitting port which it corresponding to the transmitting port.*

Nakamura is the same field of invention teaches transmitting the data packet via the transmitting port which it corresponding to the transmitting port(page 13, the terminal acts as a source terminal by transmitting a communication request packet addressed to a destination terminal(port)).

Regarding **claim 3**, Vogal discloses all aspects of the claimed invention, except *the order of the second relationship is set the step of setting, the relationship comprises:*

setting successively the according to the sequence of the port numbers of the destination port .

Nakamura is the same field of invention teaches the order of the second relationship is set the step of setting, the relationship comprises: setting successively the according to the sequence of the port numbers of the destination port (page 2, *When a received packet includes path information, the packet analyzer 2A analyzes the path information, source address, destination address, and packet ID, a sequence number, port number, or other information identifying the packet*).

6. (Canceled), 10. - 18. (Canceled)

Regarding **claim 19**, Vogal discloses all aspects of the claimed invention, except *the port number of the transmitting port is set to a port number of the destination port in the second table when the transmitting port is operating normally.*

Nakamura is the same field of invention teaches the port number of the transmitting port is set to a port number of the destination port in the second table when the transmitting port is operating normally (page 13, *The packet analyzer 2H analyzes each packet received by the communication unit 1 to obtain the source address of the packet, the terminal ID (an IP address, MAC address, or other identifying information) of the neighboring terminal that transmitted the packet, and the packet ID (a sequence number, port number, or other information identifying the packet) and sends the source address as a destination address, the neighboring terminal ID as a distance vector (DV)*

terminal ID, and the packet ID as a packet ID to the distance vector table 6(second table) to be stored).

Regarding **claim 20**, Vogal discloses all aspects of the claimed invention, except *there is a service failure in any destination port, the transmitting port corresponding to the fault destination port is modified into a backup port of the fault destination port .*

Nakamura is the same field of invention teaches there is a service failure in any destination port, the transmitting port corresponding to the fault destination port is modified into a backup port of the fault destination port(*page 6, a single main path passing through intermediate terminals with IDS included in the path information, and backup paths passing through one or more intermediate terminals, the backup paths being used only when the main path fails*).

Regarding **claim 21**, Vogal discloses each destination port appears only once in the second table(*page 6, an MPEG data packet, includes a header having a data packet identifier for routing such packet. As the data packets are received by an 110 port 320, the 110 port 320 determines which identifier it has received, and then accesses the CAM 422 table to determine from which 110 port 320 the data packet is destined to be transmitted*).

Regarding **claim 22**, Vogal discloses the destination port appears a plurality of times in the first routing table(*page 1, the video switch comprises a plurality of 110 ports coupled to the plurality of server modules and a plurality of subscriber equipment*).

Regarding **claim 23**, Vogal discloses the first routing table is not modified when there is a service failure in any destination port(*page 5, the primary switch controller 310(has first table), will have failed to poke the 110 ports 320 over the OOB signal path 317 during the next poking interval(can not modified table)*).

Regarding **claim 24**, Vogal discloses the data packet is not transmitted on the first transmitting port when a failure occurs in the first transmitting port(*page 9, a single point of failure occurring in the communications paths between the head-end controllers and plurality of server modules has been averted*).

11. **Claims 25, and 28, and 30** are rejected under 35 U.S.C 103(a) as being unpatentable over Vogal et al (US 20050028216, Feb. 3, 2005) in view of Nakamura et al (US 20050099983, May 12, 2005)

Regarding **claim 25**, Vogal discloses all aspects of the claimed invention, except *the port number of the transmitting port is set to a port number of the destination port in the second table when the transmitting port is operating normally.*

Nakamura is the same field of invention teaches the port number of the transmitting port is set to a port number of the destination port in the second table when the transmitting port is operating normally (*page 13, The packet analyzer 2H analyzes each packet received by the communication unit 1 to obtain the source address of the packet, the terminal ID (an IP address, MAC address, or other identifying information) of the neighboring terminal that transmitted the packet, and the packet ID (a sequence number, port number, or other information identifying the packet) and sends the source address as a destination address, the neighboring terminal ID as a distance vector (DV) terminal ID, and the packet ID as a packet ID to the distance vector table 6(second table) to be stored).*)

Vogal and Nakamura are analogous art because they are from the same field of endeavor of access to a service device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Vogal to include the teaching of Nakamura because it is providing communication terminals and communication networks that improve on conventional single-path and multipath routing schemes in order to stabilize communication, avoid radio interference, and use network resources effectively.

Regarding **claim 28**, Vogal discloses all aspects of the claimed invention, except *the order of the second relationship is set according to the sequence of the port numbers of the destination port .*

Nakamura is the same field of invention teaches the order of the second relationship is set according to the sequence of the port numbers of the destination port(*page 2, When a received packet includes path information, the packet analyzer 2A analyzes the path information, source address, destination address, and packet ID, a sequence number, port number, or other information identifying the packet*).

Regarding **claim 30**, Vogal discloses all aspects of the claimed invention, except *the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port*.

Nakamura is the same field of invention teaches the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port(*page 7, if a terminal on a backup path fails during use of the backup path, and can take further steps to reduce the probability that two terminals will start backup transmission simultaneously and that their transmitted packets will collide, it is significant that terminals on different backup paths will tend to set different suspension times, because they judge the conditions of different sets of nearby terminals. In addition, the terminals on different backup paths can coordinate their transmission timings so as to reduce the probability of collision to substantially zero*).

12. **Claim 35** is rejected under 35 U.S.C 103(a) as being unpatentable over Vogal et al (US 20050028216, Feb. 3, 2005) in view of Nakamura et al (US 20050099983, May 12, 2005)

Regarding **claim 35**, Vogal discloses all aspects of the claimed invention, except *the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port.*

Nakamura is the same field of invention teaches the transmitting port is used to transmit other data packets regardless of whether a failure is associated with the destination port(*page 7, if a terminal on a backup path fails during use of the backup path, and can take further steps to reduce the probability that two terminals will start backup transmission simultaneously and that their transmitted packets will collide, it is significant that terminals on different backup paths will tend to set different suspension times, because they judge the conditions of different sets of nearby terminals. In addition, the terminals on different backup paths can coordinate their transmission timings so as to reduce the probability of collision to substantially zero*).

Vogal and Nakamura are analogous art because they are from the same field of endeavor of access to a service device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Vogal to include the teaching of Nakamura because it is providing communication terminals and communication networks that improve on conventional single-path and multipath routing schemes in order to stabilize communication, avoid radio interference, and use network resources effectively.

Response to Argument

15. Applicant's arguments see pages 9-14 of Applicant's Remarks, Sep 18, 2009, with respect to the rejection(s) of claim(s) 1-18 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Vogal et al (US 20050028216, Feb. 3, 2005), Nakamura et al (US 20050099983, May 12, 2005).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IQBAL ZAIDI whose telephone number is (571)270-3943. The examiner can normally be reached on 7:30a.m to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/

Supervisory Patent Examiner, Art
Unit 2464

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